

## APPENDIX A

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```

5 public void addPaths(XMSElement element) {
    Vector pathElms = new Vector();
    Vector inputElms = new Vector();
    Integer choice;
    String fullpath = new String(path);
    String pass = new String();

10    if (!select.equals("")) {
        // convert select String to Vector
        input2vector(select, inputElms);

        for (int i = 0; i < inputElms.size(); i++) {
            choice = new Integer((String)inputElms.get(i));
15            if (values_data.size() == 0) {
                // we incorporate EXISTS condition only here because it's not possible
                // for an option to bind to an internal node and have a value data
                if ( ((String)values.get(choice.intValue())).equals("any") ||
20                ((String)values_paths.get(choice.intValue())).equals("any") )
                    return;
            } else {
                if (!((String)condition.get(0)).equals("EX")) {
                    if ( ((String)values_type.get(choice.intValue())).equals("string") )
25                    pass += "\"" + (String)values.get(choice.intValue()) + "\",";
                    else
                        pass += (String)values.get(choice.intValue()) + ",";
                } else {
                    fullpath = path + "." + (String)values_paths.get(choice.intValue());
                    path2vector(fullpath, pathElms);
30                    element.checkInsertPath(pathElms, (String)values.get(choice.intValue()),
                        (String)condition.get(0));
                }
            }
        }
    } else {
35        if ( ((String)values_data.get(choice.intValue())).equals("any") )
            return;
        else {
            if ( ((String)values_type.get(choice.intValue())).equals("string") )
                pass += "\"" + (String)values_data.get(choice.intValue()) + "\",";
40            else
                pass += (String)values_data.get(choice.intValue()) + ",";
        }
    }
}

```

```
if (((String)condition.get(0)).equals("EX"))
return;
```

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pass = pass.substring(0, pass.length() - 1);
fullpath = path;
```

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5 // take the value_path of the first choice, all of them must be equal
choice = new Integer((String)inputElms.get(0));

if ( !((String)values_paths.get(choice.intValue())).equals(".") )
// add the value path
fullpath = fullpath + "." + (String)values_paths.get(choice.intValue());

10 // convert path String to Vector
path2vector(fullpath, pathElms);

// get the type and value and generate the subquery
element.checkInsertPath(pathElms, pass, (String)condition.get(0));
}
15 }
```